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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|-----------------------------|------------------|
| 10/507,301 | 09/08/2004 | Jan Dirk Bossaerts | BE02021.US | 4067 |
| 33249 | 7590 | 11/22/2005 | | |
| RESOLUTION PERFORMANCE PRODUCTS LLC ATTN: LISA JONES 1600 SMITH STREET, P.O. BOX 4500 HOUSTON, TX 77210-4500 | | | | |
| | | | EXAMINER FULLER, BRYAN A | |
| | | | ART UNIT 3676 | PAPER NUMBER |

DATE MAILED: 11/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|-------------------------------|----------------------------------|--|
| Office Action Summary | Application No. 10/507,301 | Applicant(s) BOSSAERTS ET AL. | |
| | Examiner Bryan A. Fuller | Art Unit 3676 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 September 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>9/8/04</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. Claim 3 is objected to because of the following informalities: The claim fails to include a period at the end. Appropriate correction is required.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bossaerts et al (WO 97/20129) in view of Wu (4,541,489).

With respect to claims 1 and 3: Bossaerts et al teaches in page 2, line 16 – page 8, line 18 a method of treating an underground formation of an oil reservoir, comprising the sequential steps of (a) contacting the formation with an aqueous medium, (b) contacting the underground formation with a hydrocarbon fluid, (c) contacting the underground formation with a solvent in the form of a glycol ether, (d) contacting the underground formation with a first consolidation constituent solution, mainly comprising a poly epoxy resin derived from bisphenols, or a poly phenolic resin (novolak resins), in a solvent mainly comprising a glycol ether, in an epoxy resin concentration of from 25 to 75%w and having a viscosity in the range of from 10 to 100 mPa.s, and (e) then

Art Unit: 3676

contacting the underground formation with viscosified aliphatic hydrocarbons.

Bossaerts et al does not teach a method wherein the viscosified aliphatic hydrocarbon fluid is a solvent and contains a curing agent that occurs in a concentration in the range of from 0.5 to 20 %m, and wherein the solution has a viscosity such, that the ration between the viscosity of the solution in step (d) and of the solution in step (e) is in the range of from 1.0 to 5.0. Bossaerts also fails to teach a method wherein the curing agent is selected from aliphatic polyamines, alkyl-aryl polyamines and more preferably diethylene toluene diamine (DETDA).

Wu teaches in column 3, line 67 – column 5, line 9 and in the abstract a method wherein the viscosified aliphatic hydrocarbon fluid is a solvent and contains a curing agent that occurs in a concentration in the range of from 0.5 to 20 %m, and wherein the solution has a viscosity such, that the ration between the viscosity of the solution in step (d) and of the solution in step (e) is in the range of from 1.0 to 5.0. Wu also teaches a method wherein the curing agent is selected from aliphatic polyamines, alkyl-aryl polyamines and more preferably diethylene toluene diamine (DETDA). Therefore, it would have been obvious to one of ordinary skill in the art to have modified Bossaerts et al's invention in view of Wu's, because this allows the formation to have no water or hydrocarbons left in the formation. Additionally, the formation will be fully saturated with the solvent for the consolidation fluids.

3. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bossaerts et al and Wu as applied to claim 1 above, and further in view of Dewprashad et al (5,368,102).


With respect to claim 2: Bossaerts et al and Wu teach the features as previously claimed except for wherein the epoxy resin solution is selected from a solid or liquid (at 23 deg C) epoxy-novolac resin and more preferably a solid epoxy novolac resin. Dewprashad et al teaches in column 2, line 41 – column 4, line 52 a method wherein the epoxy resin solution is selected from a solid or liquid (at 23 deg C) epoxy-novolac resin and more preferably a solid epoxy novolac resin. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the combination of Bossaerts et al's and Wu's inventions in view of Dewprashad et al, because these resins are well-suited for use in high temperature subterranean zones.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bryan A. Fuller whose telephone number is (571) 272-8119. The examiner can normally be reached on M - Th 7:30 - 5:00 and alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian E. Glessner can be reached on (571) 272-6843. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Brian E. Glessner
Supervisory Patent Examiner
Art Unit 3676

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